Abstract:

The invention relates to a method and a device for the continuous measurement (30) of the thermal conductivity of a multifunctional fluid. The inventive method consists of: placing a sample of the multifunctional fluid in a space (31) which is defined by an inlet face and an outlet face; transmitting at least one very brief pulse of a heat flux to the sample via the inlet face, using a laser (40); measuring the heat wave at least three points which are spaced out inside the sample; using at least three temperature sensors (S1, S2, S3) in order to determine the change in the temperature of the multifunctional fluid as a function of time at the three spaced-out points inside the sample; deducing the thermodynamic characteristics of the sample from the aforementioned temperature change and calculating the thermal conductivity from equation (I), wherein T represents thermal conductivity which is dependent on temperature, t represents thermal diffusivity which is dependent on k and which is equal to k(T)/ρ*Cp, ρ and Cp representing mass density and specific heat.